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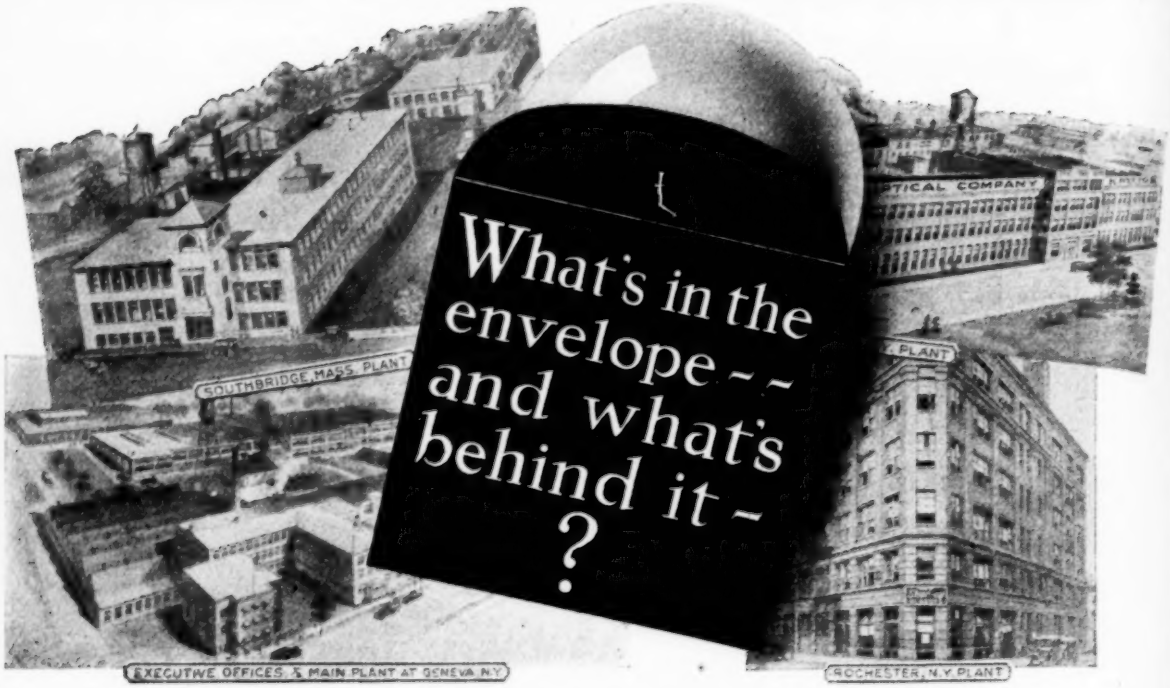
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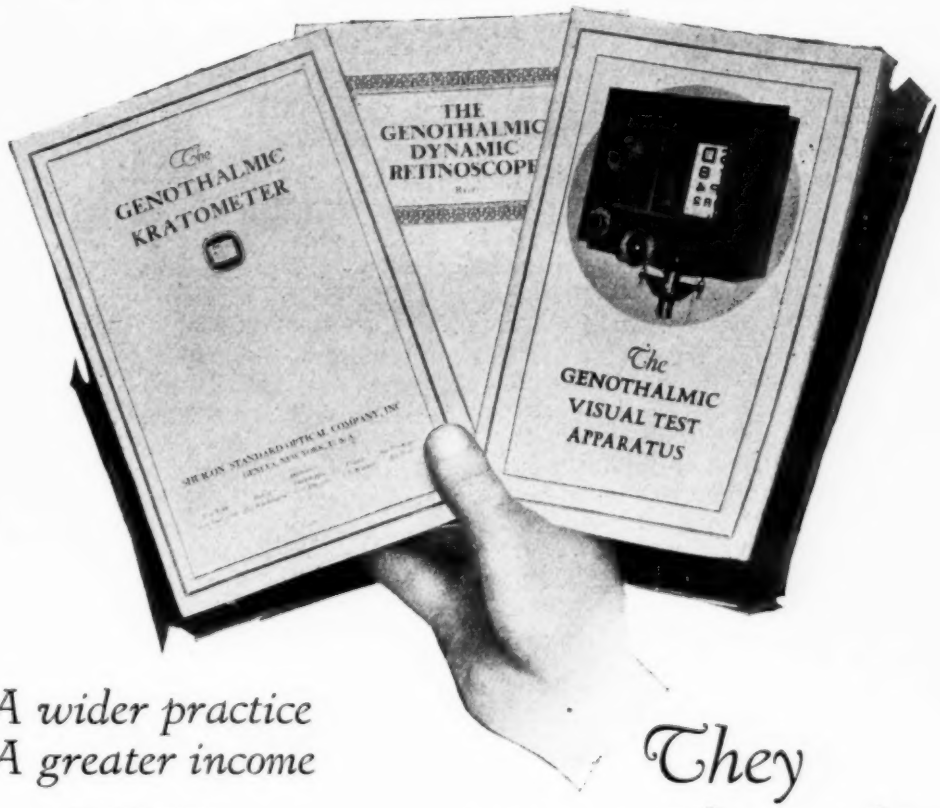

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AMERICAN JOURNAL OF OPTOMETRY

Vol. 3 OCTOBER 1926 No. 10

SUSPENOPSIA

F. McFadden, D. O. S.
Athol, Mass.

After a careful examination of a great deal of literature upon ocular defects the author has thus far been unable to find any reference to a phase of aberration, if such it may be styled, which he will endeavor to describe as best he may, and to which he has applied, for want of a better name, the term suspenopsia.

The peculiarity of suspenopsia is that it represents an intermittency of vision of which the patient is very largely unconscious. It is usually of an alternating character, with a rather wide variety of intervals, and is concerned not alone with fixation and focalization, but even with the discernment of light. For this reason it was once briefly presented under the title of Intermitting Visual Perception.

Perhaps the better way of outlining the subject will be along the route by which it came to the writer's notice. As there is a state or condition known as "aphasia," or loss of the power of speech, and as there is also "alexia," or a condition wherein the mind is blind to words but not to objects, so now it also appears that there is another condition wherein the perception of objects may be intermittingly suspended for varying intervals.

While making the subjective tests of refraction in connection with ocular myology, the Maddox rod is so placed before one of the eyes that the ribbon caused thereby is usually in a horizontal or vertical position, while the other eye fixes upon the light itself. When the ribbon is in a vertical position, or one adjacent to it, the attention of the patient is directed to observe both objects, and to state their relative position to each other—the light being to the right or left of the ribbon, usually. When this is done, it not infrequently happens that the patient declares himself unable to perceive the ribbon, although the light is readily noted. This sometimes persists to a very marked extent before attention falls upon the ribbon as well as the light, but there are not a few cases where it is necessary to take special measures to bring the ribbon to attention. This may consist of temporarily obscuring the light, when the ribbon is made apparent; but there are some who again instantly fail to retain the mental impression of the ribbon as soon as the light is uncovered.

A reversal of the position of the ribbon with reference to the eyes will at times remedy this, but quite often one eye will fix the light, while the other eye, either right or left, as the case may be, will not perceive the ribbon. This condition may continue until the ribbon is oscillated back and forth over a considerable arc, and while thus kept in motion it will be perceived at the same time as the spot, but will instantly vanish when movement ceases. The duration of vanishment may be but momentary, or may persist for a considerable time. It was this fact, frequently observed, and being of an extremely annoying and puzzling nature, which induced the writer to search into its cause.

Needless to say that neither argument, entreaty, nor very urgent command served to overcome the difficulty, and these people are perfectly sincere in their declarations that the ribbon vanishes and reappears in a most elusive and unaccountable manner, and that it is as wholly beyond their will power to retain both stimuli continuously as it is beyond the will power of others to suppress one or the other of them. Sometimes one eye will lose the ribbon, but when the Maddox is placed before the other eye the ribbon will not be lost, the brilliancy of the light being sufficient to compel attention of the otherwise suppressing and non-fixing eye.

In order to determine more of the facts of this puzzling anomaly, recourse was had to prisms, and after a period of experiment which need not here be related, it was found to

be more convenient to cause a vertical diplopia by means of a prism of just sufficient power to overcome vertical fusion. While it is possible to study suspenopsia in connection with convergent or divergent diplopia, yet vertical diplopia is the only practicable way, it would appear.

While the small and very brilliant spot of light usually used in connection with the Maddox rod serves, yet it was the writer's experience that a larger fixation object, and one of less brilliance, was more satisfactory, and this consists of the 20 cm central area of the astigmatic cart-wheel, the spokes of which are obscured by means of a large dark cardboard cut with this aperture, and so hung as to expose the opalescent glass as a disk, thus forming a strong contrast.

With a prism, placed base down or up, and of a power from 3$^{\Delta}$ to 6$^{\Delta}$, attention is directed to the white disk, and the patient is asked to state if he sees two of them. In order to differentiate between the two, a red glass is slipped into one cell of the phoroptor, and the patient is directed to look at the white spot, think about the white spot, keep attention upon the white spot, not let the mind waver from the white one for one instant, and while so attending to it, just notice, quietly, whether or not the red one vanishes.

One might be disposed to think this some phase of a psychological test, but it is not the case, as a moment's reflection will show, since primary attention is directed to a specific object with the injunction to take note as to whether or not something else takes place meanwhile.

There are cases in which the colored light falters before one eye, but not before the other, when the white and red are reversed. This faltering may take the form of a mere "twinkling out," in which the red light disappears for an extremely brief interval, reappearing so soon that the patient is unable to say it has gone and returned. Again this faltering may be in a most peculiar manner—half of the colored disk disappearing, which may either be the nasal or temporal, or possibly the upper or lower portion which disappears. In all such cases thus far observed, where the faltering of a segment occurred, it was found that the intermittency was of a very transitory character, lasting but a mere fraction of a second, and never "going out" for longer periods. Aside from these instances where there is no suspenopsia, this latter classification has been designated as of the "first order" up to a loss of perception of approximately one second of time. One of the peculiarities which some people describe is that the red light seems to grow smaller for a moment, then assume its full size again. This has not been observed to occur where the faltering is of longer duration.

The author has experimented with white and green, with white and purple, as well with green and red. So far as faltering is concerned, there has not hitherto appeared to be any difference of time when other colors than red were used. Since red is so easily distinguished, and perception of it occurs without giving direct or primary attention, it seems more expedient to use it with white, except in instances to be noted later.

Usually, therefore, we shall proceed with the tests for suspenopsia by first directing attention to the 20 cm illuminated disk, which may be from 3 or 4 to 10 meters distant. Place either a simple prism of from 3$^{\Delta}$ to 6$^{\Delta}$ or the risley turned to about this power, with base either up or down, it matters not, before either eye and the red disk before the other, directing the concentration of attention upon the white spot. This having been done, and sufficient time being permitted to elapse for the individual to concentrate the attention, the patient is then directed to observe whether or not the red spot is constantly visible, but to do so without attending upon the red spot. There is much difference among individuals in the necessary interval for such divided attention to take place. This will take a few efforts in some cases, while others of keener judgment and discernment will be able to note results almost immediately.

In a large percentage of cases it is the writer's experience that both lights show uninterruptedly, whether the red disk is before the right or left eye, and attention being directed to the white light. In many other cases it appears that the red disk will wholly vanish during very brief intervals, while in other cases it will appear to wane, so as not to appear more than

a half, or even one-fourth the original diameter, whereupon it will wax to normal size again; and in still other instances it will apparently vanish in its upper or lower segment, or in the right or left segment, to reappear again very soon.

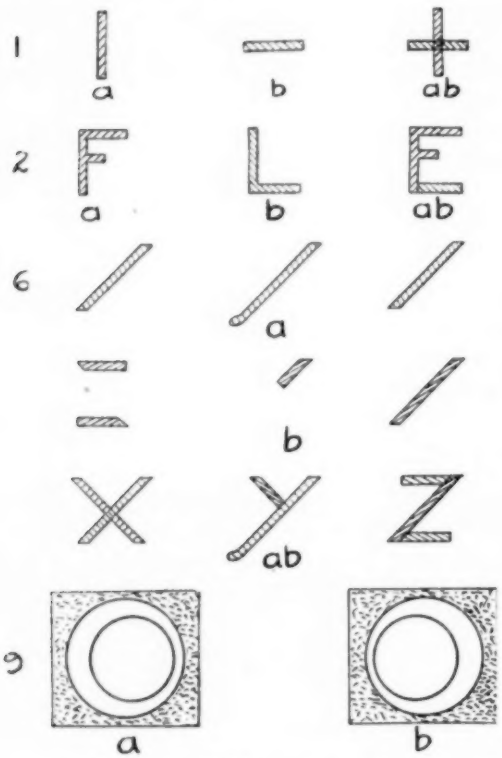

Figure 1. Amblyoscope Charts.

The periods of suspension, where total, vary from a mere twinkle of too brief a duration to permit the patron to say "gone," up to a period of several seconds, as will be shown later. In like manner the intervals between suspension vary under just as wide limits; in some cases being so brief that it is impossible to vocalize the word "come" before it has again vanished. In such cases the words, or the act of speaking the words, would be much behind the vanishments and returns. For the sake of brevity it seems expedient to designate these intervals as "positive" (+), and as "negative" (—), and to affix the approximate intervals of seconds intervening, as —1″ +2″, —¼″, +3″, —1″, +4″, etc.

It is frequently observed that one eye may have a far greater tendency toward suspenopsia than the other, although it would thus far appear that when the plus and minus intervals are both very brief, as well as when only the minus intervals are of brief duration, that each eye seems to participate about equally.

When there is a greater tendency toward suspenopsia by one eye than by the other it would be natural to suppose that the suspension would be greater in the non-dominant than in the dominant eye, but thus far this has by no means proved to be true.

In one instance the red disk was placed before one of the eyes and the green before the other, to ascertain something of the rhythm of the intervals, and it was found that not alone were both the plus and minus intervals of either the green or the red too brief to permit saying "gone—come," but that there was never an instant when both the green and red were present. With this case, which will be reviewed at length a little later, it did not matter whether the lights were made to appear as white and green, white and red, red and green, or any other color combinations for which phoroptor disks of appropriate color had been provided.

In order to show the possible bearing which suspenopsia may have with reference to the work of the refractionist it seems best here to bring forward the instance (Case A) of a young lady whose work was that of sewing a perfectly straight seam upon the tongues of shoes. She had been refracted a few days previously, and a pair of low-power plus lenses prescribed. These corrected her low hyperopia and astigmia, and would ordinarily appear to be sufficient for her needs, inasmuch as there were no phorias. She returned a few days later, stating that she had lost two good jobs because she was unable to sew a straight seam. When the test for suspenopsia was applied it was instantly discovered that she had negative intervals of from two to three seconds, with positive intervals of from two to five seconds, and that this occurred about equally in each eye. Translating this into terms of practice, it merely meant that she fixed and directed her sewing-machine needle with the right eye for two to four seconds, when, and entirely in a subconscious way, she changed eyes, so that the left eye directed the course of her needle upon the work for about the same period. The consequences

may readily be imagined, for the result was a rail-fence seam. The red and green disks before the eyes showed that suspenopsia was total in each eye while its mate functioned, which is to say that only one color showed at any one time. Had there been an overlapping of intervals it is likely that she would have experienced less difficulty.

Reviewing a somewhat similar case (Case B) we have a plumber about thirty years old. He has a long history of headaches; in fact, he states that he can scarcely remember a time when his head did not ache. His refraction calls for a very moderate plus correction, but it was found that there were 2$^{\Delta}$ of hyperphoria. Due to the fact of a very pronounced suspenopsia it took considerable time to determine the fact of an exophoria amounting to something like 18$^{\Delta}$. With the maddox over one eye—and it mattered not which—he could retain the mental impression of only one object, the light or the ribbon, and it was not until resort was made to some strategy that the determination of the presence and amount of exophoria was determined.

With two disks of light, whether white with red, white with green, or red with green, he could see but one of them at a time, but the alternations were so rapid that he stated he would be wholly unable to speak words fast enough to express the words "gone" and "come." A pencil was placed in his hand, directing him to tip it upward and downward to express the coming and going of a color. But this could not be manipulated rapidly enough either, although the act is much more rapid than that of speech.

With horizontal maddox bands, one higher than the other, the alternations were just as rapid; but by obscuring one eye at a time we compelled the uncovered eye to retain its fixation, no suspension of vision occurring in this instance. This result was also obtained with the other eye, and by quickly uncovering we arrived at an approximation of the exophoria. Following along this line of treatment it soon became possible to compel both eyes to retain a more or less continuous sense of the maddox in the vertical positions or positions adjacent to the vertical. The colored disks were behind the rods, however, so as to be able to determine which eye was functioning. Since an image in motion is given closer attention than a still image, it was found that the two vertical maddox bands could be kept at attention with each of the eyes much more continuously, if this method was adopted, not only to determine such exophoria as existed, but also in the process of training for binocular vision.

At this point, and at the seeming risk of digression, it would appear that the term binocular vision should be given more careful consideration, and its meaning more carefully defined. As now understood, it means

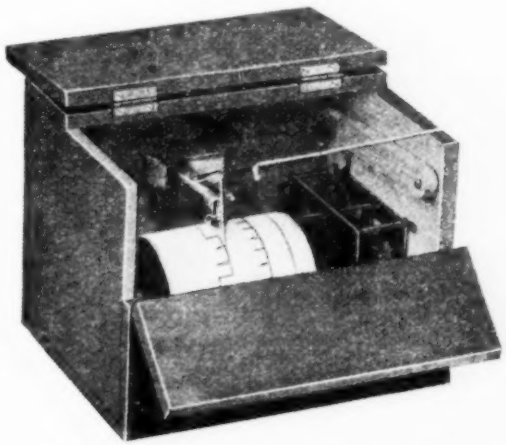

Figure 2. Author's Recording Apparatus.

the ability of each eye to see the same point at the same time. These times, however, often prove to be of such brief intervals, with the minus intervals either as brief or only slightly longer, that we fail to have what is commonly understood as true binocularity. Calling attention to this fact in the above case, and in others to be noted, we failed in two other tests to obtain actual stereoscopic vision, a condition whereby the distance of proximal or medial objects is both raidly and accurately determined.

In testing for stereoscopic vision, or stereopsis, the refractionist hands a pencil to the patient, requiring him to drop the point of it straight downward upon the point of another pencil held point upward. The patient will be able to do this with both speed and accuracy if he has stereopsis, but if he does not possess it, then he will reach too far or too near with his pencil, and line up with his dominant eye. In this test it is absolutely nec-

essary that the patient hold but one of the pencils, and the refractionist the other, and that distances, directions, and ranges be constantly changed, making a dozen or more trials to determine how speedily and accurately the distance is gauged. If the person under examination were permitted to hold both pencils his "muscle sense" would correct any visual shortcomings of distance estimate and make this test of no value.

Returning to Case B, we find that this man had many experiences of bumping into things as obvious as the walls of a building or room, although perfectly able to see them clearly, never experiencing double vision, and in possession of from 85 to 95 per cent visual acuity. By all ordinary tests he would be possessed of binocular vision, and yet he failed to have stereoscopic vision, due solely to suspenopsia. A measure of relief has been obtained by the combination of prisms with the refractive corrections, but prisms have proved too troublesome in his work, and his long experience in offices and stores, coupled with accusations of malingering at the hands of army experts, has been so discouraging that it is very difficult to retain his interest in corrective training and measures. However, the use of prisms has greatly reduced the headaches brought on by a few moments of reading, while it has also considerably reduced the intervals of suspenopsia.

Case C is that of a thirteen-year-old boy, brought by his father to see if his glasses could not be improved upon, and more relief obtained. An exotropia was clearly evident, and the maddox revealed a hyperphoria of 1$^{\Delta}$ combined with 14$^{\Delta}$ exotropia. His refraction was first considered. The eyes were found to be hyperopic something more than one dioptre, very pronounced miosis and spasm. The suspenopsic test applied to the left eye evidenced no particular difficulty other than that which might be considered a normal interval. But that of the right eye showed negative intervals as high as 30 seconds, and never less than five seconds, with plus intervals of about the same durations. (See graph i.)

The meaning of this is the simple fact that the eye was functioning only half time, and when sending to the brain its report of the outer world this image was regarded as unsatisfactory; hence it would appear that exotropia was being resorted to by nature in order to remove an offending image. Whether the tropia was the cause or the effect of suspenopsia, or whether the refractive conditions were the cause, we are not yet to decide because of other accompanying factors, soon to be noted.

The amblyoscope was brought into use to determine if the fusion sense were present. During the first tests this had no meaning to the young man. Treatment was instituted, first with the oscillating maddox, and later with the two colored disks, vertically placed by means of the risley. When the two large differently colored disks could be brought to attention and retained we felt that we were once more upon the highway, but this was not attained without much striving. First a prism of 6$^{\Delta}$ was placed at 172° in order to fully correct the hypertropia and a portion of the exotropia, combining this with his hyperopic correction. Amblyopic treatment at home was instituted particularly that of covering the left eye at meal times and compelling the right to attend the act of eating. As he was young, and the case was taken up in time, also given attention by his parents, the case responded very quickly to treatment, and the amblyoscope soon began to bring about stereopsis to such an extent that charts 1ab, the cross; 2ab, the FL; 6ab, the XYZ; and 9ab, the "tunnel and pail," had meanings (See Fig. 1). In a short time the muscular treatment brought the eyes into coordination, so that now he has no hyperphoria or exophoria whatsoever, and the suspenopsia has wholly ceased.

While a review of the two preceding cases shows that suspenopsia was associated with muscular imbalances, let it not be supposed that they are always concurrent. Case D is that of a clothing merchant, age 35, whose errors of refraction call for O. U. +2.00 diopter cylinders, axes 92½° and 90° respectively. Until the axis of the right lens was carefully worked out and correctly placed he experienced much asthenopia, and it was found that the negative intervals were from 10″ to 13″, with positive intervals of about twice this period of time.

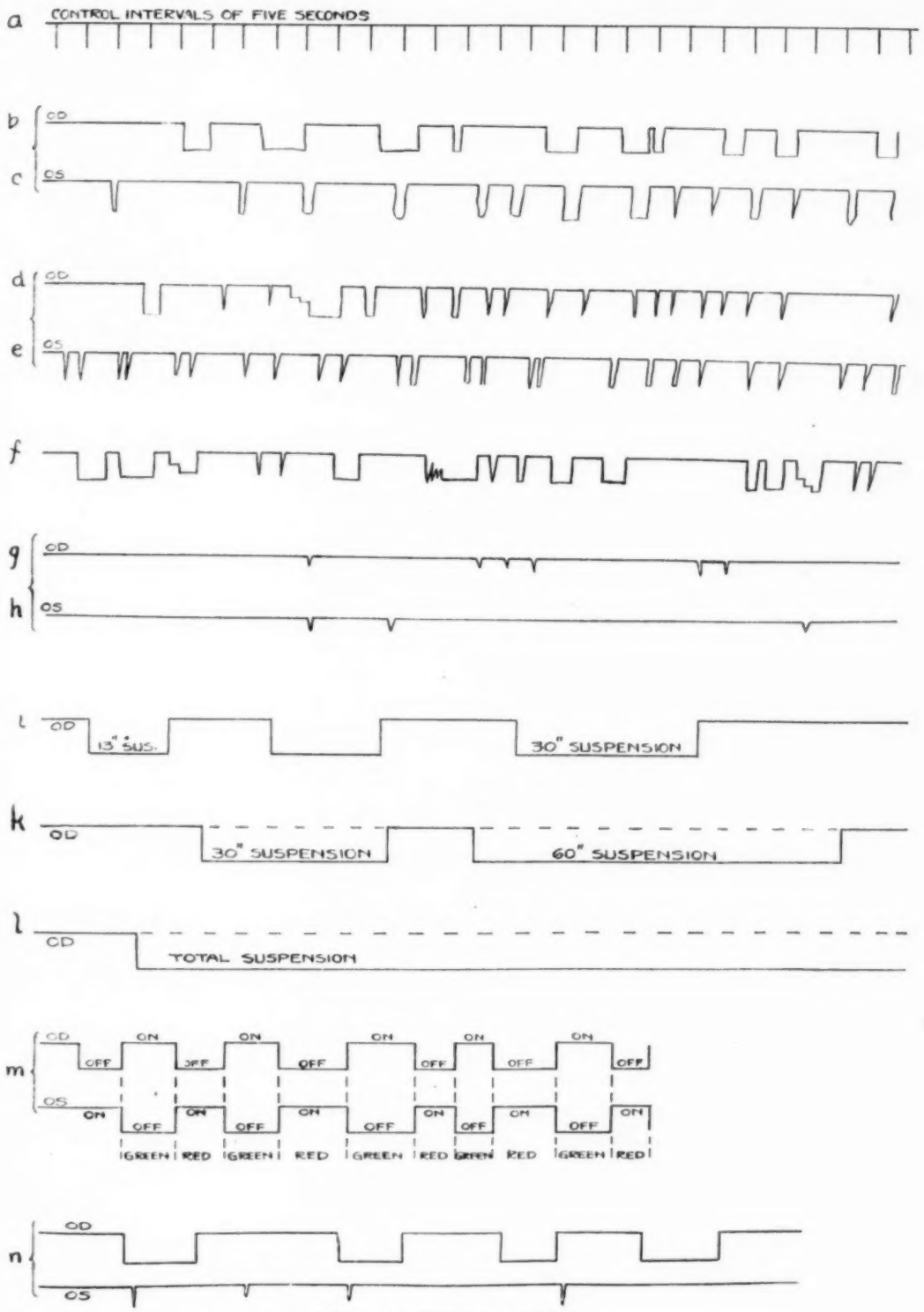

Figure 3. Illustrative Graphs.

On two occasions since the lenses were placed, they have become loosened sufficiently to turn out of axis, and not only has discomfort resulted but actual mental torture, and in each case the suspenopsia has reappeared. After replacement of the lens to axis this symptom soon subsides and tests fail to disclose any negative intervals. (See graph n.)

Case E is that of an elderly preacher whose hyperopia was only that which usually corresponds with the age. Upon complaint that there was some un-

usual condition, the case was reviewed for suspenopsia, and it was found upon varying occasions that his negative intervals varied from 30″ to as much as 60″. During such times he was working monocularly, the active eye taking the entire burden of vision, much to his discomfort and annoyance. He was a man prone to over-exertions far beyond the capacity of his years, and when at the limit of endurance these intervals were far longer than when he felt more nearly normal. (See graph k.)

Case F is that of a lady, high strung almost to the breaking point. Refraction was not unusual, and lenses were fairly comfortable, but she states that she has times when she could almost sense that one of the eyes "snapped" and she could not seem to see with it until she made a sort of squint which might perhaps fitly be described as a grimace, but which apparently served to bring about binocular vision. When making the test and examining her for this movement she made a very pronounced "blink." Under the test for suspenopsia we discovered the negative intervals which coincided with these periods during which she sensed a sort of "snapping off," and she could terminate them at will as described. (See graph f.)

Case G is that of a young mechanic requiring +2.50 cylinders, and with an esophoria of only 2$^{\Delta}$. The condition continued for so long a period of time before he ever wore glasses that one of his eyes has an acquired astigmatic amblyopia to such an extent that his visual acuity was only 49% in it, and 84% in the other. Suspenopsia of the eye having the lower acuity was complete, by which is meant that the usual vertical diplopia could not be produced. With the 6$^{\Delta}$ base up over one eye, and with a red disk before it and green before the other it was impossible to make him sense both colors at once, while obscuring of the 84% eye caused the other to take up vision, but only maintaining it until the mate was uncovered. (See graph l.)

With the Maddox rods before each eye, colored disks as before, and while oscillating the rods, it was just possible to compel observation during the time when the rods were being oscillated, but no longer. His distance calculation by means of the two pencil points previously mentioned was very far from satisfactory, since his judgment of distances inside of 50 cm would be from two to four cm short of the point. Unfortunately, he could not be interested sufficiently to undertake training for the eye, and so a highly interesting case was lost before it could receive much study.

Case H is what Case G will in time undoubtedly become. This is the case of a merchant whose age is about 52, and not only has the eye become highly exophoric, but vision has ceased to all practical purposes, since there now remains but a vague sense of light. The consultant's description of his case is that the eye gave him some annoyance in youth, that he never bothered to wear glasses, that it gradually turned outward, and that it finally became useless. There appears to be no organic trouble, and the good eye requires only a moderate plus-power correction. It is quite apparent that this is a simple case of neglect by the consultant, and also a lack of understanding of this type of asthenopia by refractionists.

While the number of cases might run to considerable length, we will content ourselves with Case I, that of an elderly lady who wears bifocals, has an immeasureable amount of exotropia, and may be said to have a sort of binocular vision, but by no means has stereopsis. Her acuity, while wearing +1.75 D. S. before either eye is practically 100 per cent, but while she fixes with one eye the other turns up and out. She has the power of voluntary control, fixing with either eye at will, but while so fixing the vision of the mate is nil. Required to read aloud on the proximal card, she can do so uninterruptedly and with alternation of the eyes. Suspenopsia is complete, but in this instance it has not resulted in occipital blindness. It is impossible for her to see the two colored maddox ribbons simultaneously, for suspenopsia is of such long standing that there is no association between right and left stimuli, although the eyes are so well matched in acuity and their errors are almost equal.

Since this peculiarity of vision seems to have a very definite meaning, in many cases it has been the writer's practice to include it in the routine of examination. This can be done with very little trouble indeed, for it was

discovered in the routine of the maddox test. It is by no means unusual to have the person under test state that the ribbon of light cannot be seen, even after all adjustments are carefully made, and each eye sees a ribbon singly. When both eyes are uncovered we often have patients say that they do not see the ribbon at all, and then almost immediately, and without either a movement on their part or any change of adjustment on ours, they will perceive the ribbon, only to have it vanish again just as quickly. When this occurs we may be quite certain that we have a case of suspenopsia, and it may be very quickly corroborated by turning up the risley set to 4Δ or 6Δ, base at zero, and inserting the red disk. In the first portion, we have some evidence without having made any preparations whatsoever, and the latter portion will not require more than a moment to determine all the facts for each eye.

It has been found that a great many people have a very slight manifestation, taking the form of the merest fluttering out, in one or both eyes. This interval is sometimes so short that they scarcely perceive it, and at other times, as previously stated, the minus intervals are of very brief duration but are quite frequent.

Since the finger is much quicker than the tongue several methods have been tried out whereby these intervals might be reduced to a graph. The accompanying Fig. 2 (the author's recorder) shows a mechanism which is quite crude, but has been reasonably effective, although it is capable of great improvement in many respects. By its means, a drum is caused to revolve by clock-motor, and upon a paper strapped to the circumference there is a pencil, held to an even tension upon the paper. A string attached to a moving arm which supports the pencil, has, at its other end, a ring through which the **index** finger is slipped and the instrument so placed that the string is nearly taut. It is necessary to know whether or not the patron is right- or left-handed, else the record will lag

In Fig. 3 are shown several graphs, **a** being a control showing 5″ intervals by which the plus and minus intervals, may be readily estimated. At **b** and **c** are shown respectively graphs of the right and left eyes of a typical case of an extremely neurotic woman. It will be observed that suspensions are taking place at short intervals but that they are of considerable duration in the left eye **(b)**, while in the right **(c)**, they are more frequent, but shorter. In three places the graph shows a suspension of vision of the left eye of from 5″ to 7″. Graphs **d** and **e** are the right and left of a phlegmatic man, where the minus intervals are very brief with one exception, and the plus intervals cover most of the time. At **f** is the graph of Case F, the lady who is a nervous wreck. It does not follow, however, that neurotics will show pronounced cases of suspenopsia, for the graphs **g** and **h** are of one who has had a complete nervous collapse of two years' duration.

There are a great many people who show not the slightest indication of suspended vision in either eye, and (fortunately or otherwise) the writer is thus debarred from a personal participation, for only in one instance, when physically fatigued, was there a trace of suspenopsia.

There is yet much to be discovered before we may hope to understand the various steps involved in the translation of light rays into neural response. We have come to give names to certain phenomena, and to describe what undoubtedly results, but of the actual transpositions involved there are many unwritten chapters. By some unknown means that which is termed radiant energy will stimulate certain of the nerve endings, and that portion of this energy which we conceive to vibrate within certain frequencies stimulates the neural termini of the retina, thereby being transmitted, after many relays, to certain portions of the brain, bringing forth sensations in the convolutions of that highly complex organ which it translates as manifestations of the outer world, and upon which it proceeds to take certain specific actions.

In an article on "Other Eyes Than Ours," in Archives of Optometry, October, 1922, the writer has endeavored to show that reptiles, fishes, and most of the mammals are undoubtedly monocular to a very great extent, but that binocularity might, and probably is, practiced in some forms of fixation.

As the cranium has undergone development, the eyes have advanced to a more forward position whereby binocular fixation and fusion acquired a meaning. In the lower orders this is impossible, and they must needs fix monocularly. But while this is taking place it is evident that the retinal message from the non-fixing eye must be submerged. Many if not most of bird and reptile species have a separate control of the direction of the eyes, as well as apparent voluntary control of the iris. It seems quite certain that the macular area sends forth axones whose synapses finally reach the centre of pure vision of the opposite occipital lobe, and are thence distributed to the higher centres, here being combined with impressions arriving from the other eye, as well as from auditory, tactile, or other sources, and reviewed upon the bases of past experiences.

Omitting reference to what should be classed among the tactile sensations of the neural stimuli necessary for convergence to the point of fusion, with its accompaniment of distance-judgment, and the facts which seem to show that the exterior ocular muscles are controlled to a certain extent by neurons of the lobe on the same side of the head as the eye involved, we proceed to consider retinal reception and transmission

It has been said, and with a great degree of truth, that an amblyopic eye was one in which the refractionist could see nothing, and neither could the patient. Considering such an eye, part by part, there is no reason why there is not a retinal image, and indeed we can produce upon its ground a distinct image of the lamp filament which we easily observe with the opthalmoscope, as well as a similar one with the skiascope Optically the eye may be nearly or quite perfect, or only imperfect within far smaller limits than are many functioning eyes, and yet we say that "the eye sees nothing." With strict regard to facts, it is not so much the eye as it is certain convolutions of the brain which "see," and they cannot receive or respond to this stimulus without the message

If a message has been received in a badly garbled condition, so that it corresponds but little with those received from other sources which prove to be nearly or quite correct, and is also at variance with past experiences, we should expect the message to be discounted, and even disregarded When such disregard comes to be habitual we may be assured that not only is the message useless, but is distinctly a disadvantage; that the neural impulses necessary to pass the many synapses are wastes of energy, and that the function may well be dispensed with. In this manner the eye may come by slow degrees, which may cover a period of many years, to lose its function as an eye, and in this manner will deviate outward and somewhat upward, the tonus of the extrinsic muscles being in a more or less atrophic condition. In this manner is lost the dual sense of the picture and of its position, both of which are of prime importance if they are to be relied upon.

But binocular vision, and particularly stereoscopic vision, is a function which was only acquired in a comparative yesterday, from the zoological standpoint, and may not have become so wholly fixed in even the human race as not to be quite easily disturbed. Stereopsis (loosely called stereoscopic vision) is an act of extreme complexity, involving not only fixation, focal adjustment, adjustment to light, both by the iris and by retinal adaptation, judgments of distance because of retinal area covered, and a host of other things, but also that of fusion, of relative convergence, relative accommodations, relative motion, and still another host of adaptations and adjustments. When these acts must take place at the rate of from fifty to a hundred in a second of time it may be appreciated how intricate is the act of sight. It is evident that it may require but little continuous interference with the complex of sight to be highly disconcerting to its activity, and particularly when it is a dual function which is of comparatively recent acquirement.

The writer puts forward these thoughts as a tentative explanation of such graphs as **g** and **h,** representing a large number of people whose eyes are undoubtedly nearly or quite normal, who have no difficulties such as those outlined in the cases presented, and yet who exhibit in one or both eyes these extremely brief suspensions of vision. These graphs depict the suspensions as much more pronounced than they actually are, from the fact

that consciousness must rise to a declaration of the voiding of the red stimulus in the area of pure vision, and which must be noted rather by its absence than its presence. After this mental notation, it then becomes necessary to send forth a tactile message through the brain, spinal cord, arm, hand and finger, an act which takes an appreciable time, (for the rate of neural flow is said to be from 27 to 42 meters per second). The instrument itself is necessarily stiff, cumbersome, and slow of response, hence the graphs somewhat exaggerate what we should consider a condition well within the normal.

But there is not the slightest doubt as to their existence, however, as can be readily demonstrated by any refractionist. It is rather by the prolongation of the duration of suspensions, by their frequency, by a sensation of the act of sight that one eye has "gone out," as some express it, and as others in the amblyopia ex anopsia class will declare that "everything has gone black" (when the good eye is well obscured), that we confront a condition which is not only highly interesting, but one whose hidden meaning we can scarcely guess.

When such cases are discovered it is the writer's belief, based upon his experience, that the interruptions may be caused by ocular disturbances like those noted, but also by a wide variety of other things as well. As a matter of fact we have a great many ordinary cases for refraction in which suspenopsia is much greater than it is in typical cases of amblyopia ex anopsia. In fact, it would appear that amblyopia ex anopsia is due in great measure to causes far outside of refractive errors. While this paper is not primarily devoted to a consideration of amblyopia ex anopsia, but of suspenopsia, nevertheless, the fact of the latter seems to be very closely associated with the causes of the former, while in the later stages of amblyopia the suspension of vision is almost if not wholly complete.

The question is asked, What does suspenopsia indicate, and what can be done about it? It indicates that vision may not be a continuous act or function, but that it is subject to interruptions which may at times vary from the merest fraction of a second up to many seconds, or even to complete submergence. That it takes place there need be no doubt, but that the very short suspensions do take place in many individuals apparently has little significance, since it does not seem to cause annoyance. However, when these suppressions extend over an appreciable time, i. e., some seconds in length, there seems to be reasonable ground for believing that they may and do interfere with the act of seeing, varying with the nature of occupations and many conditions of health.

When eye discomfort is present, with diplopia, or asthenopia, whether accommodative or myologic, then suspenopsia has a significance that should receive strict attention, for it appears to have a tendency to increase up to the point of complete, or constant suspension of vision. This takes place by such slow degrees that it is not missed until the eye is far gone. Unless recognized early, and fusional training at once rigorously instituted, together with ocular exercises, vision will be lost to an eye that could function more readily than do many whose purely refractive error might be many times greater.

The test is simple in its early detection, while a record of the intervals of suspension requires no other apparatus than the risley, a colored disk or two, the light, and a watch, whereby the seconds may be counted. The recording, as outlined, can be quickly written on the refraction sheet, so that comparisons may be made from time to time. It would seem that it might be made to add one more approach to the great mystery of vision, and suggest other means and pathways whereby errant eyesight may be led back to the normal usefulness.

*A great portion of this paper appeared in Vol. 5, No. 1, of the American Journal of Physiological Optics.

BY RULE OF THUMB, OR BY RULE OF PRECISION, WHICH?

Oscar L. McCulloch, Opt. D.,
Holyoke, Mass.

It has long been a conviction of the writer that in the measurement of pupillary distances there has been a great deal of guess work which has resulted in anything but comfort for the patient. This has been confirmed by McFadden of Athol, Mass., I believe, who wrote an able article upon this subject. My excuse for writing more is that perhaps a little prodding in the ribs is good for all of us and helps to awaken us from our lethargic state. Also there are a few observations which the writer has made which he would like to get off his chest and which he has not seen in print as yet.

Probably ninety-nine per cent of the distance pupillary measurements are taken with a hand millimeter rule as well as those at the near point. Sometimes it was a wooden, blurred figured rule, sometimes a bone or celluloid one; at any rate the chances are that it was inaccurate, because as you all know, wood shrinks and expands, varying with the condition of the atmosphere, while celluloid is prone to warp and retain anything but it's original shape. Still it was upon the measurements of these inaccurate devices that our glasses were built. What an inconsistency! The same man would probably reject a lens from a prescription house if he found a small bubble or scratch in it, but he would serenely pass out a pair of glasses to a patient with the pupillary distance off from two to ten millimeters and think nothing of it; and then he would be greatly surprised when the patient reported that he could not wear the glasses, especially if he had checked the refraction again and found it the same. That patient probably sought someone else who paid more attention to the matter of proper fitting of the frame.

What is the remedy? Just this. Take your pupillary measurements with an interpupillary gauge and then see that your optical centers fall in the proper places as revealed by the gauge, when they are made and ready for delivery to the individual.

The nose is going to be the center of all your frame fitting, whether you use eyeglasses or spectacles, so, therefore, your pupillary measurements should utilize this same center as the basis of things. The hand rule, however, only gives you the total distance between the eyes and unless the eyes are very much askew, the fact will not be noted and, therefore, no correction made for it in the glasses.

There is certainly a percentage of people, according to my own observation of at least seventy-five per cent, who have one eye farther from the nose than it's mate. This varies anywhere from one-half a millimeter to as much as eight millimeters. Certainly this is a factor in the comfort of a pair of glasses and if the lenses are at all strong, it becomes one of the primary reasons whether the glasses can be worn or not.

To those who are unfamiliar with the use of the interpupillary guage perhaps this will serve as an example of how to use it and why its use is necessary for accurate work. For an R, let us take the following: O.D. + 4.00 D. Sph. O.S. + 4.00 D. Sph. The pupillary measurement for distance, according to the hand rule method, is 64 mm. The glasses are made up 40 mm. round and the bridge occupies 24 mm., so that the pupillary distance of the patient and that of the glasses are identical and everything should be fine. Now, use the interpupillary gauge and see what we get. The P.D. with the right eye for distance measures 30 mm. while the P.D., for the left eye measures 34 mm. We still have a total of 64 mm., but using the same frame, the lenses would be made in the following manner: The O.D. would be decentered in 2 mm., while the O.S. would be decentered out 2 mm. Then our glasses, when in place before the eyes, will have their optical centers before the pupils and things will be theoretically correct and prac-

tically as well. Some one will probably raise the point that the prisms produced by the decentration neutralize each other because their bases are opposed. Granted, but the effect of not decentering in the first pair of lenses was to produce prism base out over the O.D. and prism base in over the O.S. This action partially inhibited the action of O.D. external rectus, while at the same time, it partially energized the internal rectus of the same eye.

Now, let's see what happened to the left eye. The prism was base in over this eye, so it partially inhibited the internal rectus as well as energizing the external rectus. So you see the net result is to upset a nice adjustment between accommodation and convergence and the result is misery for the patient. A simple thing in itself, but productive of troubles galore. In our second pair, there was no prismatic action deleterious to the functioning of that pair of eyes as a unit and therefore, no discomfort. Of course, if your patient does not possess binocular vision, it would not matter how much prism there was in each lens because he only uses one eye at a time.

When it comes to bifocals, these facts are brought out very forcibly and if the spirit moves me again perhaps I'll fill you up on that subject.

I think most refractionists, non-medical or medical, almost never take the pupillary distance before they begin their refraction, but rather afterward. Now, on the face of it, this is not good practice and I cannot say too strongly: *Take your pupillary distance before you refract and adjust your trial frame to those measurements. If examining at a distance use the distance P.D. and if at near use the near P.D., adjusting each eye separately.*

The errors shown in our phoria tests show quite a variation unless these precautions are taken and naturally so. Especially is this true if one follows Dr. R. M. Peckham's ideas on making phoria tests, namely, by using the Savage method of prism base up over one eye and prism base down over the other eye.

It seems to me that we as refractionists, must seek to do our job ever so accurately. It is in doing this that we will eventually enjoy the public's confidence in our work to the utmost. We believe the "drop" method of refraction to be wrong and think we have something better. It is now up to us as never before to prove this contention and it is by such small things that we can do it.

REFRACTIVE COUNSEL

Dr. R. M. Peckham, Optometrist, of 111 Bank Street, Waterbury, Conn., will answer in these columns questions regarding difficult refractive cases. Our readers are requested to send him full particulars of each case, which will be published along with the reader's initials only. These questions and answers will appear monthly. Also in this department Dr. Peckham would like to receive the accounts of unusual cases which have been satisfactorily handled, which will be published, if accepted, over the practitioner's name.

In a recent letter the following facts regarding a case are given: Patient, female, age 45, manifest hyperopia, 2 D., manifest exophoria, 8Δ, no latent hyperopia found, no astigmatism. Presbyopia, 1 D. Exophoria at near, 10Δ. Left eye turns up, and is constantly on the verge of diplopia. Correction of the 2 D. of hyperopia increases the exophoria at distance, and with the total of + 3.00 needed for reading, the exophoria at near is decreased, but still she is not comfortable. Base down prism over left eye increases discomfort.

Regarding this case, the writer might say that if the examiner will go a little further, he will probably find more or less habitual suspension, and if this habit can be eliminated, he will have advanced a long way toward giving her comfort. Try 0.50Δ base **up** on the left eye, this will inhibit the upturning tendency. I should also give O.U. 1Δ base out, and as little plus as possible.

If weak minus lenses, say O.U — 0.50 do not interfere too much with the vision, that is, do not blur too much, probably wearing them for a month or so would help a great deal. With some base out prism, you will find that she does not need the full + 3.00 for reading.

In this case, the only thing to do is to build up convergence association with, and control over, the accommodation. That is, the hyperopia, or the greater part of it, that is now manifest will have to be made latent. If you could get convergence and accomodation into some kind of co-ordination, she would probably be able to take care of her visual requirements without discomfort. But accommodation alone cannot compensate 2 D. of hyperopia, it must have convergence support. The whole problem is to get those two functions to working synergistically instead of each "on its own" as they do now. R. M. P.

Another letter mentions the following case, that of a young woman, age 22, unmarried, vision without lenses, 100%, 2Δ esophoria at distance. Now wearing O.U., + 0.75 Sph. ⊃ + 0.25 Cyl. Ax. 90, fitted under atropine. Ophthalmometer readings, 0.50 astigmatism with the rule. Using the Kratometer, the most latent hyperopia we can find is + 1.00 Sph. without a sylindric correction. Her present glasses, she says, "Drive me nearly frantic." A former prescription, O.U. + 0.50 Sph., while not so uncomfortable, did not relieve the headaches. Reserve adduction at near, 28Δ, abduction at near 16Δ. The letter ends with the question, "Will prism exercises do her any good?"

Regarding this case I would say that not all esophoria is accommodative, that is, there are cases of esophoria that are not caused by the effort to compensate for the hyperopia. This seems to be one of those cases.

There is such a thing as super-tension, due usually to mental inability to relax, and this is very common among young women. A physical examination would probably show the entire skeletal musculature in the same tense, unrelaxed state.

Experience with similar cases has taught me that the wearing of plano prisms, about 1Δ, base in, will force immediate relaxation, the headaches disappear as by magic.

Daily exercises for two or three weeks, not over ten minutes daily, with base in prisms, so long as you have a Kratometer, will no doubt help along. You will find that the prisms will need to be shifted very slowly to prevent the occurrence of diplopia. Invariably these individuals are slow in making adjustments. Direct the exercises to increasing the speed of re-adjustments, never mind the power that is overcome. It is speed that is needed and prism power is of secondary im-

portance. Of course, rotary prism or loose prism exercises cannot be used for developing speed.

The headache is not caused by accomodative stress but by the difficulty in relaxing the convergence. This is not a case of "over-tonicity," it is not a case of "spasm," or cramp. It is probably mental in origin, and, at least, you can force binocular relaxation, which is the end of the case so far as the optometrist goes. R. M. P.

BOOK NOTICES

New Books for review should be sent to Dr. E. O. Fjelstad, 22 E. 38th St., New York, N. Y. Only Books of such nature as to be of interest to optometrists will be used in this department. Optometric and Ophthalmic publications that have been issued in the past and which are still procurable through their publishers will also be reviewed, from time to time, as space permits.

VISUAL FIELD STUDIES. **Ralph I. Lloyd, M. D., F. A. C. S.** Pp. 216. 124 Illustrations. Published by the Technical Press of New York. 1926.

Quite often, while studying the fundus oculi, the observer sees an ophthalmoscopic picture which warrants further study. The instrument needed is the stereo-campimeter or a campimeter of whichever type suits the fancy of the practitioner. Lloyd, in this book, states, "that every eye that cannot read 20/20, and for which there is no explanation in the cornea, lens of vitreous, has a central scotoma, relative of absolute." We know of no better way to locate and study scotomata than by means of the campimeter.

Lloyd offers suggestions as to when field studies should be made, describes the method of making such and by means of illustrations shows the appearance of some defects as charted by him.

The author first gives a short history of this branch of ophthalmology, followed by a study of retinal physiology. Then he gives an account of the apparatus and technic, followed by several chapters of chorio-retinal conditions.

Discounting a few typographical errors, we find the book a useful addition to our library and intend to consider it as a valuable reference book.

E. O. F.

THE MODERN TREATMENT OF OCULAR IMBALANCES. Published by the Shur-on Standard Optical Co., Geneva, N. Y. Pp. 100. Illustrated. 1926.

The technic developed by the late Doctor Hazen, is greatly amplified in this new text dealing in a measure with the same subject, that of muscular treatment.

The new Genothalmic Kratometer is first briefly described and its various uses carefully outlined. Next, its technic is thoroughly gone into, and third, the many forms of its use are painstakingly explained. The newer thoughts on muscular innervation are reviewed and the treatments generally recommended, described.

The book is very well written, and although the author's name is withheld, we feel sure after the first reading that it was done by Dr. R. M. Peckham. Need more be said as to its excellence?

Optometrists who are striving to keep abreast of ever changing development should read and study this book. There is much in it of genuine value.

C. C. K.

ABSTRACT DEPARTMENT

Optometric and ophthalmic Journal articles and reprints to be abstracted should be sent to Dr. G. L. DuPlessis, 209 Yeates Building, Minneapolis, Minnesota. Only papers of interest to optometrists will be reviewed in this department.

LaGrange & Perron. Progressive Lesions of the Macula in Three Brothers. Paris Opthalmological Society Proceedings. April 17th, 1926.

Lagrange & Perron presented three brothers suffering from visual disturbances characterized in the two elders by a bilateral central scotoma with progressive deterioration of the macula. The third brother has a relative scotoma in the left eye with visual acuity reduced to 25% and this appears to be the initial symptom of the pathology which affects the two older brothers. There are no signs of heredosyphilis and the problem in this case consists in making a prognosis and developing a mode of treatment.

G. L. Du P.

Miyashita. On the Size of the Pupil in High Myopia and Pigmentary Degenerescence of the Retina. Revue Generale d'Ophthalmologie. May, 1926.

Myashita finds that in a general way, the size of the pupil increases in myopia, but only up to 13 diopters. Beyond this degree it becomes smaller. He explains this fact by the difficulty in adaptation, had by high myopes; by the anterior chamber depth which makes the pupil appear smaller and allows the iris to flatten. In another note he mentions that in pigmentary degenerescence of the retina as in myopia, the pupillary action is slow and the pupil smaller. This, he believes, is caused mostly by trouble in adaptation.

G. L. Du P.

Hartman E. Independent Movements of the Two Globes. Paris Ophthalmological Soc. Proceedings, March 20, 1926.

Hartman presents a case of a child, 12 years old, probably a heredo-syphilitic, having a binocular optic atrophy with low acuity since an early age. No objective symptoms of central nervous system derangement, but defective mentality evident. The peculiarity of this case lies in the ocular movements. Normal movements were all possible, but in a state of rest, the eyes were in constant movements. There was a horizontal nystagmus and in addition, slow, non-rhythmic independent movements of each eye in all directions and specially above and temporally.

G. L. Du P.

On The Simultaneous And Sudden Occurrence Of Unilatral Blindness And Celebral Lesions.
By Henry Friedenwald, M. D.

Contributions to Ophthalmic Science, pages 152, 1926.

Dr. Fiedenwald claims that sudden unilatral blindness after middle life is commonly ascribed to thrombosis of the central retinal artery. There is no difficulty in recognizing these cases even after their early characteristic changes have passed off, because the marked change in the retinal arteries and atrophic nerve head along with the clear signs of general vascular disease, make the diagnosis unmistakable.

He reports several cases in which diagnosis of ocular lesion was based on these findings. One case is here mentioned for its particular interesting characteristics. A lady patient, age 66, while she has been under observation of her physician for three years, had headaches and weakness as her principle complaints. She suddenly became blind in both eyes. The blindness lasted but a few moments and when it passed off she again felt well and normal. On the next day a similar attack came on while in the bath room and she was unable to find her way into the next room. This attack lasted for ten minutes and again passed off, after that she felt apparently well, but soon another attack followed, after this the left eye remained blind.

An ophthalmoscopic examination disclosed partial atrophy of the left optic disc and the vessels were greatly narrowed. There was a complete loss of vision on the entire nasal half of the field.

Thrombosis of the central retinal ar-

tery is the most likely explanation of the sudden loss of vision. The age of the patient, the presence of a high degree of general arterio-sclerosis, the subsequent ophthalmoscopic appearances make any other explanation impossible. The celebral symptoms, apopletic in character, are likewise easily accounted for by simultaneous celebral-thrombosis.

J. I. K.

The Etiology of Lenticular Cataract. C. E. Ide. The Eye, Ear, Nose and Throat Monthly. Vol. V, No. 4, pp. 195-203, 1926.

Ide, in discussing the causes for lenticular cataract believes that normal eyes are not injured by ultraviolet radiation from ordinary sources of artificial illumination, or by daylight.

That the eye, when abnormal, through change of the protein of the cytoplasm of its tissues, is vulnerable to the influence of ultraviolet radiation.

That even the normal eye is subject to destructive influence of ultraviolet radiation in large amounts, as the lightning discharge of Nature and massive flashes of electric light.

That it is probable that change in the lens protein is due, not alone to such substances as are discovered in the lens substance by chemical analysis, but also to the presence in the blood of bacterial endotoxins, from foci of infection.

T. O. B.

Color Sense and Color Sense Tests. A. A. Meisling. An abstract by D. L. T. of a paper read at the sixth Scandinavian Ophthalmological Congress at Copenhagen, July 1st, 1926, from the July, 1926, issue of the American Journal of Ophthalmology.

In order to determine how the true red-blind and green-blind would perceive the usually applied color tests (Holmgren, Krenchel, Daa, and others), solutions of light green and erythrosin were employed. The former dye stuff excludes nearly all the red rays, the latter the majority of the green. The results of these tests showed that it is comparatively easy, by means of color filters to make the examiner red-blind, red being confused with and identical with brown, grey and black, and purple with blue. It was far more difficult to produce a state of green-blindness by means of the tests used, the result being highly dependent on the spectral composition of color tests, which varied from sample to sample. In order to estimate the applicability of a test color its spectral composition should, therefore, be examined with a special view to the secondary colors, which by the color-blind—in contradistinction to the normal—are utilized for discrimination between the test object as a color-blind person will be guided by the color tone and by the brightness of the secondary colors.

In order to create rational tests for color-blindness, we have the alternatives of selecting the test objects according to their spectral composition. or on their two or three color print. The latter is rendered possible by the lithographic color test (Ishihara's, Stillings'), where the colors are appropriately selected. In some previous experiments with combination of color filters, erythrosin and methylene blue-gelatin, the author pointed out that, looking thru these compound filters, a person with normal color vision sees in the same way as the color-blind, since he can perceive the figures and windings on Ishihara's tests for color-blindness which are otherwise perceived by the color-blind alone. This is due to the fact that the combination of filters excludes nearly all other color rays but blue. The color-blind person is thus able to read the tests only on account of his deception of blue and because he sees purple as blue; this can further be proved by photographing the plates on silver bromid films, which are sensitive to blue only, and on which, consequently, the same figures and windings as are perceived by the color-blind will appear.

To explain the color sense, two theories seem possible:

1. The presence of color filters in the retina which intensify certain colors and efface others, thus lending to colored objects a highly varying degree of brightness. We may here point to the colored oil globules, which are situated immediately in front of the cones in birds and reptiles. The light must necessarily be filtered thru these before reaching the external

part of the cone. These globules are ruby, yellow and greenish in the retina of hens. (Some preparations were demonstrated by the lecturer.)

2. Sensitization of the retina with color sensitive substances similar to the method of sensitizing films by silver bromid to red, yellow and green by means of dye stuffs, such as cyanin, eosin, and erythrosin, etc.

Against this sensitization theory the objection has been made that, apart from the retinal purple which sensitizes to green and blue, no color substances have been found in the retina; this objection is, however, greatly weakened by the fact that it has been established by photographic experiments that silver bromid can be rendered photosensitive to red, yellow, and green, by addition of quite minimal quantities of dye stuffs, so minimal as to be invisible to the eye. For example, by applying eosin, in a dilution of one to one million, a silver bromid film will be rendered sensitive to yellow.

That colors may appear to become less intense when an object has been viewed for a lengthened period also seems to indicate a consumption of visual substances in the retina.

In this connection a case described by Prof. A. Lehman, where a color-blind (green blind) person states that he has temporarily regained normal vision, possibly in association with a mussel poisoning, may be of some interest. The patient writes: "Before I realized my trouble, I had wondered that two colors which to me appeared to be highly different, were by others designated as green. Later, I understood that of a yellow-green color I perceived an impure yellow, and of a bluish-green I perceived an impure blue, while I failed to recognize the pure green. This will also explain why to my eyes, the colors of a wood in springtime and of one fading in autumn have quite the same character, while people with a normal color vision tell me that there is a huge difference. On one single occasion I believe, however, that I have experienced color sensations which were identical with those of a normal person, but as far as I am aware, this experience lasted only for one day. It was a December evening in 1901 that as I was sitting in my room, my eyes happened to glance at a colored map of Copenhagen hanging on the wall of my room; I was startled at perceiving a color in the part representing Fredericksberg Gardens (a park in Copenhagen), which I had never seen before. I realized at once that it must be an intensely green color. Quite amazed I gazed about me, detecting everywhere red and green colors of a character quite unknown to me and in places where I had never previously perceived any colors at all, thus for instance in puddles of water in the street (it was the time of sunset) and in lighted windows. Highly excited at this discovery I went out into the street in order to gather new impressions and, altho it was at the point of getting dark, I enjoyed the sight of colors everywhere, in places where I never expected them, especially red and green colors. Quite by chance I met Prof. Lehman to whom I at once communicated my experience. He would not believe me, at first, but took me to a grocer's shop window in order to test me, as he knew exactly my color mistakes and confusions. On this occasion, however, to his great surprise, he did not succeed in detecting my mistakes. I was able to name exactly each special color, myself wondering that colors could produce such varying sensations on the eye, which was something quite new to me. We made an appointment for the next day that Prof. Lehman might undertake a more thorough examination of my color sense; but alas, already on the next day the spell was broken, and I have never since regained this power."

As a result of the above mentioned investigations the author states his view that color perception possibly depends on the presence of certain substances in the retina.

From what has been said and particularly because of the case referred to in which a green-blind person temporarily had normal color vision, it would seem that there is a possibility of curing color-blindness by subcutaneous injections of dilute solutions of dyes which would be bound by the retina and make it sensitive to colors.

T. O. B.

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DR. JACK I. KURTZ, Room 209 Yeates Building, Minneapolis, Minnesota.

The Journal has no objection to the reprinting by other magazines of any of its articles, provided such reprints are properly credited to the American Journal of Optometry.

THE INTERNATIONAL ASSOCIATION OF STATE BOARDS OF EXAMINERS IN OPTOMETRY

The report of the proceedings of the convention of the International Association of State Board of Examiners in Optometry, which was held at San Francisco, is a valuble document and would be worth while reading by all conscientious and progressive optometrists. It is a document which may mark a turning point in optometry if some of the resolutions and recommendations, it contains be followed out. Space would not permit us to reproduce the report in full, which contains 21 typewritten pages. The more important points only will here be reviewed.

The Advisory Examination Committee Report

The Advisory Examination Committee made a complete and detailed report and offered several valuable recommendations. The outstanding ones are: (a) To define each examination subject clearly and give it a separate time so that one subject would not overlap upon the other. (b) That examination questions should be of the type which will make the applicant think in order to answer it. This was designated as a "thought type question" and is to take the place of "fact type question." The latter type, it was pointed out, is merely a test of the applicant's memory and not of his knowledge. The examination questions of any state board may be sent to the Examination Advisory Committee and receive any suggestion the committee may offer. This would tend to standardize the examination questions of the different examining boards.

The Syllabus

Recommendations were made to procure from every member board, an expression, first, as to the extent to which the "outline syllabuses" are used; if they are not used, why not? And third to frankly post the name of the member board that has not as yet declared its acceptance and adoption of the "Outline Syllabuses."

The Syllabus is a systematic outline and definition of optometric subjects to be used as a guide by the examining boards in making up the examination questions. This document was adopted at the first meeting of the International Association of Boards of Examiners. It is a valuable document and if once adopted by all boards would not only standardize the examinations, but would also raise their standards. It is to be regretted that there are some

boards who have not as yet adopted the "syllabus." This indicates a lack of interest and a lack of progress by the members of these boards. The officers and members of the state association should exert their influence to have their state boards adopt the "syllabus." For after all, the members of any state board are but the representatives of the optometrists of that state and should follow out their wishes and instructions. *Any state board which fails to function to the best interest of optometry, should be replaced by new men who are abreast of the times and whose action will bring credit and progress to optometry in that state.*

Professional Ethics

In considering the ethical practice of optometry, the committee brought in the following recommendations: "That further amendments be made to the optometry laws, providing that boards shall have the right to arbitrarily refuse to grant registration by reciprocity to any optometrist who is not engaged in ethical practice in his home state and we would only suggest that "unethical practice" be clearly defined in all optometry laws so that applicants may be thoroughly familiar with the ethical requirements before seeking registration in other states."

In most states the board is compelled to issue a certificate if the applicant possess the proper educational qualifications. One of the qualifications should be that the applicant be engaged in ethical practice whether as an individual or in the employ of other concerns. This incorporated in the optometry law will tend to lessen the number of undesirable, unfair and dishonest applicants.

School Rating

The school rating committee after a long search for an inspector who would be competent to handle the task of inspecting and rating of the schools, was unable to do so. First, they found that there were few men available who are competent to carry out this work; second, the fees of those who were available were so high that the committee considering its financial limitation, could not engage them.

Finally the committee succeeded in securing the services of Dr. Frederic A. Woll of Columbia University. He devoted a great deal of his time in carrying on the inspection of schools from the Atlantic to the Pacific coasts and through Canada. He has done that at such a low cost that it barely covered his traveling expenses.

The total number of schools examined were sixteen. Of these, seven received the grade "A," two, the grade "B," and three, the grade "C." In four schools the grading was withheld. This was done in order to give the schools plenty of time to make the necessary changes so as to meet the standard requirements. Seven schools were not visited and were listed as "not recognized" on account of their low standards.

The committee recommended that state boards accept candidates for examination only from class "A" and "B" schools. This is a very important step forward and all individual optometrists and optometric associations should exert all their influence with their state boards to have them adopt these recommendations. To accept applicants only from class "A" and "B" schools should have the effect of preventing the undesirable element from entering the profession. It is usually the thoughtless and irresponsible that try to get through the short cut methods. This class has never proven to be a credit to any profession.

November the 15th of this year, a list of all the state boards who have accepted the classification will be published. Officers and members of the various state associations should watch for the list and see to it that the names of their state board appear on the honor roll.

The work and accomplishment of the International Association will have great and favorable effect on the future of optometry. The outgoing officers may well be proud of their accomplishments, and with the new officers composed of men like that ever dynamic Dr. J. Fred Andreae of Maryland, who is the new secretary and Dr. Ernest Eimer of Michigan the new president, we can look forward even for greater accomplishments in the future. More power to the International Association of State Boards of Examiners in optometry, an organization that does a great amount of good and gets but little publicity or credit.

J. I. K.

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

STATE EDITORS

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Reports of Society Proceedings in Iowa should be sent to Dr. D. A. Kinney, Charles City; in Maryland to Dr. J. F. Andreae, Baltimore; in Minnesota to Dr. J. A. Large, Winona; in Nebraska to Dr. C. A. Perrigo, Freemont; in North Dakota to Dr. A. S Anderson, Williston; in Oklahoma to Dr. E. B. Alexander, Duncan, and in Vermont to Dr. L. P. Folsom, So. Royalton.

NEBRASKA ASSOCIATION

Members of the Nebraska State Association, whose dues are fully paid up are entitled to the services and advertising material offered by the A. O. A. Department of Publicity and Public Information. The director of this department, whose office is at 304 Waldheim Building, Kansas City, Missouri, offers a series of leaflets on different subjects which are considered as valuable publicity material. These are supplied at cost to members in good standing of our Association.

For any other information members are urged to communicate directly with the director of the A. O. A. Department of Publicity and Public Information at the above address.

DR. FRED GUNDER,
Secretary.

MINNESOTA STATE ASSOCIATION

Did you ever stop to think about the large amount of "ready to wear" spectacles, which are being sold by different merchants through this state, and to what extent it affects your practice as well as the glass wearing public? The figures are really astonishing. The Executive Committee of your Association has given this matter considerable thought and study and it was decided that proper legislation must be enacted to protect not only the interests of Optometry—YOUR INTERESTS, but the interests of the public as well.

The replacement of "focal lenses" is another important problem we must deal with. For the protection of the practitioner, his patients, and the public REPLACEMENTS SHOULD BE LIMITED TO THOSE QUALIFIED TO PRESCRIBE.

Your officers plan to introduce amendments to the optometry law which will aim to limit the sale of glazed goods and replacements and confine them to the proper channels. Your officers also plan to inaugurate a publicity and educational program. To carry out these plans we need the moral and financial backing of every member of the Association. Are you with us? Do you wish to see your profession and practice progress and prosper? Do you wish to have the interests of Optometry and of the glass wearing public safeguarded by legislation? You can have all that if you will. It is all up to you. We are ready to get busy on the LEGISLATIVE, PUBLICITY and EDUCATIONAL program and are awaiting for the command from the members to go ahead. What do you say? Let us have your answer on the pledge card enclosed in President Nordland's letter sent to you a few days ago. Do not put that card away. Give us your reply today.

DR. J. I. KURTZ,
Secretary.

EYESIGHT SURVEY AND SERVICE CORPORATION

For the past five years, at least, the standard bearers in optometry, the men who really relish education, practice of the ideal kind, have frequently said, "If we could only have the cream of the profession into a nuclei, we might get somewhere."

We want to say to this group of men, we are giving you this opportunity to carry out your wishes—right now. The writer, after a decade of persistent study, observation and certainly no little sacrifice to self and family, has succeeded to build a foundation for such a structure. The educational department of the state of New York, with Dr. Downing at its head, has no superiors in these United States.

It is with the assistance and permission of this splendid department that we have incorporated in the Eyesight Survey and Service Corporation an advanced educational department for the special training of the profession to do one of the pieces of work—visual survey and service work, perhaps the most extensive, serviceable and appreciated work ever undertaken by any profession and appreciated organization.

Together with this schooling arrangement, legal, financial and moral support of the most influential kind has been secured. The terms for entrance into this organization are within the reach of every honest, honorable, ethical and professional practitioner in the optometrical profession. The plan carries with it the complete separation of the professional from the commercial. Don't misunderstand please, there are two separate and distinct departments in this organization. One educational and professional, the other commercial. The profession desires this and in an emphasized way, industry, commerce and transportation appreciate it. Cautiously patiently are we selecting for our work those who are proficient. Men qualified to do work objectively are desirable and to be selected. If results are to be obtained there must be efficiency in doing this work.

We are sparing no effort to make this work beneficial to all concerned. It is not a perfect plan we are operating under, but with the help of all interested, time will do much to make our work—your work a success. If those of the optometric profession, who desire to see big and interesting things grow, will give their time to study, to con-

(Continued on page 321)

NOTICE

The entire profession has now received our announcement of the coming course in Visual Survey and Service. Applications are coming in from all over the country. The first mail brought in such names as Dr. Watts, Ex-President of the New York State Association, and Dr. Todd, Ex-President of the National Association. We are more than pleased with these early returns.

In order, however, that the greatest number may be enrolled in time for the regular distribution of the lessons, we are again calling the course to the attention of those from whom we have not yet heard.

You will be interested to know that our Service Department will be operated upon certain definite principles of which the following will concern you most.

1. Our Service Department will sell the advantages and necessity of Visual Survey and Service to Industry and contract for this Service on an annual basis.

2. The Survey will comprise an objective and subjective test according to our standards, a report to the employer of findings, and further complete examination of the employee followed by such service as will remedy each case.

3. This Service to Industry will be on an annual basis with the cost of this Service to Industry depending upon the number of employees.

4. This Service is to be rendered by local practitioners who have qualified under our course and practice according to ethical and professional standards. The work to be apportioned by us among this class as our work and the enlistment of industries develop.

5. Practitioners to be compensated monthly by us on a per capita basis. Your remuneration will be professionally adequate.

6. All professional work to be kept wholly separate and distinct from the merchandising service.

If you have not already enrolled, fill out the application which you have already received and return the same with your check and notes.

Eyesight Survey and Service Corporation

1014-1019 Union Trust Building

Rochester, N. Y.

Say: I saw it in the American Journal of Optometry